

### Claims

1. A motor controller comprising:  
an inverter circuit for driving a brushless motor; and  
a control unit for controlling the rotational speed of the brushless motor by controlling the phase of the motor current of the brushless motor through the inverter circuit.
2. The motor controller according to claim 1, wherein said control unit controls the phase of the motor current so as to restrict the rotational speed fluctuation of the brushless motor caused by load torque fluctuation.
3. The motor controller according to claim 2, wherein the control unit detects the rotational speed fluctuation and rotational phase of the brushless motor based on the rotation of the brushless motor and controls the phase of the motor current based on the rotational speed fluctuation and rotational phase which have been detected.
4. The motor controller according to claim 3, wherein the control unit estimates the rotational speed and rotational phase of the brushless motor based on the motor current of the brushless motor, thereby detecting the rotational speed fluctuation and the rotational phase.
5. The motor controller according to claim 1, wherein the control unit controls the phase and amplitude of the motor current of the brushless motor, thereby controlling the rotational speed of the brushless motor.
6. The motor controller according to claim 5, wherein the control unit controls the phase and amplitude of the motor current so as to restrict the rotational speed fluctuation of the brushless motor caused by load torque fluctuation.
7. The motor controller according to claim 5, further comprising a rectifier

for rectifying an a.c. power output from an a.c. power source to output to the inverter circuit,

wherein the control unit controls the amplitude of the motor current according to the absolute value of the output voltage of the a.c. power source.

8. The motor controller according to claim 1, further comprising a capacitor interposed between d.c. power input terminals of the inverter circuit.

9. The motor controller according to claim 1, wherein the brushless motor drives a load the torque of which fluctuates so as to have one peak per rotation of the brushless motor.

10. A compressor having the brushless motor controlled by the motor controller of Claim 9, as a driving source.

11. An air conditioner having the compressor of Claim 10, as refrigerant compressing means.

12. A refrigerator having the compressor of Claim 10, as refrigerant compressing means.